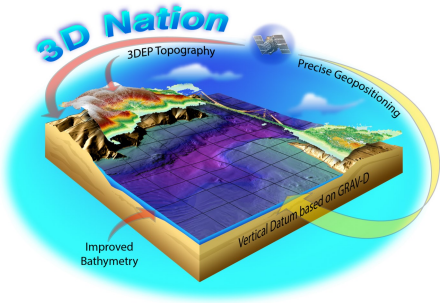
3D Nation Elevation Requirements and Benefits Study

Participant Handout

3D Nation Goal: To continually improve the national elevation mapping foundation by coordinating topographic, coastal, and bathymetric mapping activities across the Nation.



What is 3D Nation?

3D Nation serves as a unifying structure for all national elevation efforts, and provides a consistent set of standards and objectives for an authoritative foundation to support national needs. The 3D Nation concept provides a foundation for mapping our changing world by uniting terrestrial and coastal/ocean mapping efforts from the highest mountains to our deepest oceans to ensure public access to an accurate, authoritative national elevation dataset.

What is 3D Elevation Data?

3D elevation data refers to:

Topographic data - precise 3D measurements of the terrestrial terrain

Bathymetric data - 3D measurements of underwater depths and topography

Why do we need to understand stakeholder needs for 3D elevation data?

Critical decisions are made across our Nation every day that depend on elevation data, ranging from immediate safety of life and property to long term planning for infrastructure projects. We also depend on it to manage our natural resources and plan ahead for sustainable use, protection, and enjoyment of the environment. The 2012 National Enhanced Elevation Assessment (NEEA) was key to informing how the 3D Elevation Program (3DEP) could best respond to the rapidly growing need for high-quality elevation data to represent the land surface.

Today we have the same questions for data that represent our inland rivers, oceans, coasts, and Great Lakes. What are the needs for, and value of, accurate, 3D topographic and bathymetric mapping data to the nation? How can Federal mapping agencies better design their programs to meet existing and future needs for both datasets?

The Interagency Working Group on Ocean and Coastal Mapping (IWG-OCM) and 3DEP are working together to answer these questions with a new requirements and benefits study. The study will seek input from managers and data users from a variety of government, not-for-profit, academic, private, and commercial entities.

What is the 3D Nation Elevation Requirements and Benefits Study?

The 3D Nation Study will document and refine the requirements and benefits of the wide range of mission critical needs that depend on 3D elevation data to inform policy, regulation, scientific research, and management decisions. Such mission critical needs include flood risk management, landslides, infrastructure management, natural resources conservation and use, intermodal freight movement, safe maritime shipping and congestion avoidance, and updating nautical charts, among others.

The 3D Nation Study builds on the original NEEA to provide the ability to assess new acquisition technologies against user requirements and identify the tradeoffs between different approaches while simultaneously helping plan for the next round of 3DEP after nationwide coverage has been completed. Importantly the study adds our inland rivers, oceans, coasts, and Great Lakes to the equation.

What will a 3D Nation Study participant be asked to do?

Your input will be gathered through a series of questions that will ask about your Mission Critical Activities, requirements, and associated benefits for 3D elevation data. There will be questions about your area of interest (geographic extent), 3D elevation data accuracy and update frequency requirements, linkages to other data to support a wide range of analysis, and estimated benefits of having the required data.

The online questionnaire is expected to be made available in Spring 2018. It will likely take about an hour to complete. There will be materials provided along with the questionnaire that explain the technical terms used along with some examples of how to estimate benefits. The data from the questionnaire will be aggregated and validated in follow-up interviews or workshops in which you may also be invited to participate.

What is a Mission Critical Activity?

Mission Critical is defined as "indispensable for mission accomplishment and/or essential for effective/efficient operations in accomplishing the core mission of the organization."

A **Mission Critical Activity** is an activity or process that uses some form of digital 3D elevation data, including derivative products, to accomplish a Business Use. Examples include inundation mapping, marine navigation, or precision farming.

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How are 3D Nation Study participants selected?

Participants are selected via a nomination process to identify individuals with knowledge of their organization's use of and need for 3D elevation data. Federal Agencies nominated a lead POC to establish a participant identification process based on their organization's structure and use of 3D elevation data. For the states and territories, State Champions with 3D elevation experience agreed to coordinate the participant identification process for state, regional, local and tribal requirements within their state's geography.

Who is sponsoring the 3D Nation Elevation Requirements and Benefits Study?

This study is sponsored by the National Oceanic and Atmospheric Administration (NOAA) Office of Coast Survey and the U.S. Geological Survey (USGS) National Geospatial Program to learn more about the business uses and associated benefits to be realized from improved 3D elevation data to help better develop future program alternatives that would provide 3D elevation data to meet many federal, state, and other national business needs.

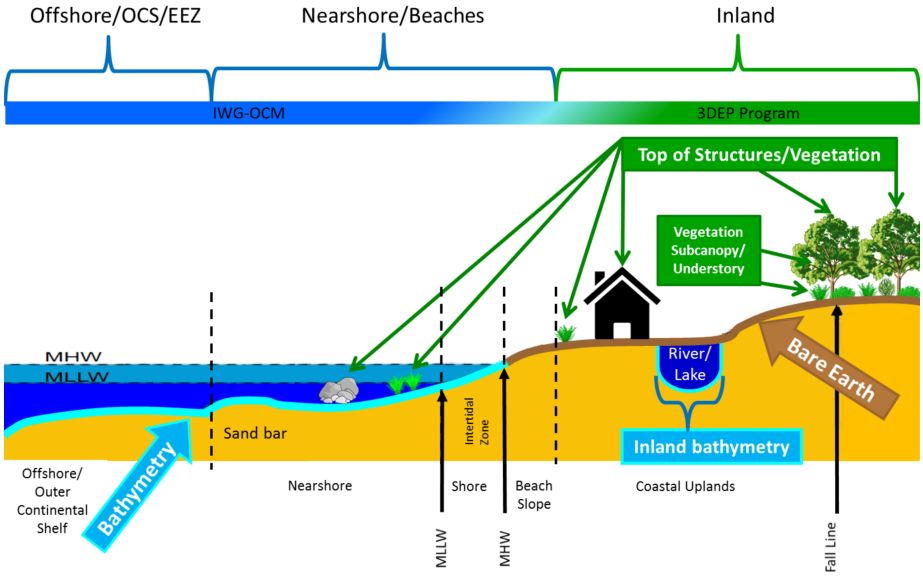
How is the 3D Nation Elevation Requirements and Benefits Study being conducted?

Information Gathering Phase:

The study began in September 2017 with a two-step information gathering process to comprehensively document and validate user requirements. Federal Agency POCs and State Champions have been nominated based on their broad knowledge of business needs for 3D elevation in their organization/state and to ensure that their organization's/state's business needs, as well as benefit information, are fully represented and validated. The POCs and State Champions will then select their organization's/state's participants to the study's questionnaire for the initial information collection. This will be followed by workshops and interviews to refine and validate the collected information. Not-for-profits' and selected industries' requirements for 3D elevation data will be gathered using a similar process.

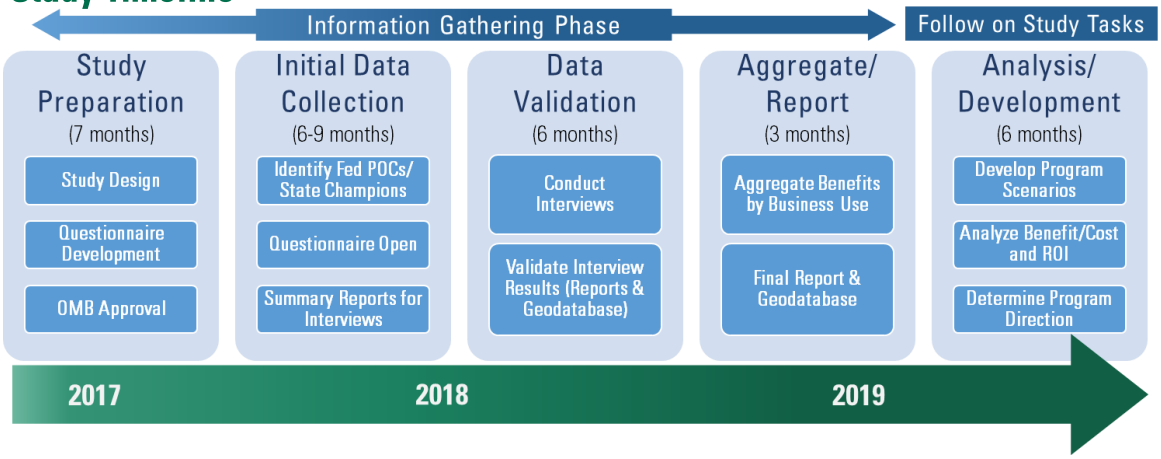
Follow on Study Tasks:

- Analyze the collected business use and benefits information to develop proposed standardized national dataset options that meet a majority of the business uses and to determine the cost and value of each option.
- Evaluate and compare alternative program scenarios based on their expected ability to produce the standardized national dataset options in terms of costs, risks, operational efficiency and other feasibility issues.
- The study is targeted for completion in 2019. The final report will be available to interested stakeholders.



Topographic, coastal, & bathymetric 3D elevation data across a multitude of geographies.

Study Timeline



For more information:

Contact:
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Visit:
https://communities.geoplatform.gov/ngda-elevation/3d-nation-study/